IN THE CLAIMS:

Please amend claims 4 and 7 as follows.

1. (Previously Presented) A method for providing a data symbol having a first quadrature compensated data symbol (FQCDS), a second quadrature compensated data symbol (SQCDS), a first in-phase compensated data symbol (FICDS) and a second in-phase compensated data symbol (SICDS) to an inverse fast fourrier transform (IFFT) of a multicarrier quadrature modulator having an amplifier, wherein a first subcarrier data symbol and a second subcarrier data symbol are available from a mapper and an alpha, an epsilon, and a gain are predetermined, the alpha, epsilon and gain being imbalance parameters, comprising the steps of:

first quadrature compensating the data symbol based on the alpha, epsilon and gain to produce the FQCDS;

second quadrature compensating the data symbol based on the alpha, epsilon and gain to produce the SQCDS;

first in-phase compensating the data symbol based on the alpha, epsilon and gain to produce the FICDS; and

second in-phase compensating the data symbol based on the alpha, epsilon and gain to produce the SICDS.

2. (Previously Presented) A method for providing a first quadrature compensated data symbol (FQCDS), a second quadrature compensated data symbol (SQCDS), a first

in-phase compensated data symbol (FICDS) and a second in-phase compensated data symbol (SICDS) to an inverse fast fourrier transform (IFFT) of a multicarrier quadrature modulator having an amplifier, wherein at least four transmitted symbols are available from the amplifier and at least four data symbols and a next data symbol are available from a mapper, comprising the steps of:

a) calculating the energy of the at least four transmitted symbols;

b) calculating an alpha, an epsilon and a gain based on the energy of the at least four transmitted symbols and the at least four data symbols, wherein the alpha, epsilon and gain are imbalance parameters;

c) storing the alpha, epsilon and gain;

d) first quadrature compensating the next data symbol first quadrature subcarrier based on the alpha, epsilon and gain to produce the FQCDS;

e) second quadrature compensating the next data symbol second quadrature subcarrier based on the alpha, epsilon and gain to produce the SQCDS;

f) first in-phase compensating the next data symbol first in-phase subcarrier based on the alpha, epsilon and gain to produce the FICDS;

g) second in-phase compensating the next data symbol second in-phase subcarrier based on the alpha, epsilon and gain to produce the SICDS;

h) repeating steps a, b and c wherein the at least four transmitted symbols include the next transmitted data symbol and the at least four data symbols include the next data symbol.

3. (Previously Presented) The method of claim 2 wherein the step of calculating ~~a~~ the alpha, epsilon and gain further comprises the steps of:

calculating a first alpha, a first epsilon and a first gain based on the energy of the at least four transmitted symbols;

calculating a second alpha, a second epsilon and a second gain based on the energy of the next data symbol;

calculating the alpha based on an average of the first alpha and the second alpha;

calculating the epsilon based on an average of the first epsilon and the second epsilon; and

calculating the gain based on an average of the first gain and the second gain.

4. (Currently Amended) The method of claim 2 wherein the step of calculating the energy of at least four transmitted symbols further comprises the steps of:

a) squaring ~~sampling~~ output of a transmitter to provide a squared ~~sampled~~ signal;

b) sampling the squared ~~sampled~~ signal to provide a squared ~~square~~ sample signal; and

c) integrating the squared sample signal over a symbol duration.

5. (Previously Presented) An apparatus for providing a first quadrature compensated data symbol (FQCDS), a second quadrature compensated data symbol (SQCDS), a first in-phase compensated data symbol (FICDS) and a second in-phase compensated data symbol (SICDS) to an inverse fast fourrier transform (IFFT) of a

multicarrier quadrature modulator having an amplifier, wherein at least four transmitted symbols are available from the amplifier and at least four data symbols and a next data symbol are available from a mapper comprising:

a) means for calculating the energy of the at least four transmitted symbols;

b) means for calculating an alpha, an epsilon and a gain based on the energy of the at least four transmitted symbols and the at least four data symbols, wherein the alpha, epsilon and gain are imbalance parameters;

c) means for storing the alpha, epsilon and gain;

d) means for first quadrature compensating the next data symbol first quadrature subcarrier based on the alpha, epsilon and gain to produce the FQCDS;

e) means for second quadrature compensating the next data symbol second quadrature subcarrier based on the alpha, epsilon and gain to produce the SQCDS;

f) means for first in-phase compensating the next data symbol first in-phase subcarrier based on the alpha, epsilon and gain to produce the FICDS;

g) means for second in-phase compensating the next data symbol second in-phase subcarrier based on the alpha, epsilon and gain to produce the SICDS;

h) means for repeating implementation of a, b and c wherein the at least four transmitted symbols include the next transmitted data symbol and the at least four data symbols include the next data symbol.

6. (Previously Presented) The apparatus of claim 5 wherein the means for calculating the alpha, epsilon and gain further comprises:

means for calculating a first alpha, a first epsilon and a first gain based on the energy of the at least four transmitted symbols;

means for calculating a second alpha, a second epsilon and a second gain based on the energy of the next data symbol;

means for calculating the alpha based on an average of the first alpha and the second alpha;

means for calculating the epsilon based on an average of the first epsilon and the second epsilon; and

means for calculating the gain based on an average of the first gain and the second gain.

7. (Currently Amended) The apparatus of claim 5 wherein the means for calculating the energy of at least four transmitted symbols further comprises:

a) means for squaring ~~sampling~~ output of a transmitter to provide a squared ~~sampled~~ signal;

b) means for sampling the squared ~~sampled~~ signal to provide a squared ~~square~~ sample signal; and

c) means for integrating the squared sample signal over a symbol duration.

Please amend the Specification as follows:

Please replace the paragraph beginning on line 79 on page 3 with the following amended paragraph.

Fig. 2 shows a transmitter according to an embodiment of the invention. Directional coupler 201 may obtain the waveform as amplified by amplifier, that is a transmitted symbol. Subsequently transmitted symbols are next symbols. The signal is provided to a squarer 203, which may be an analog device. An analog to digital converter follows 205. The signal may be integrated over the duration of a transmitted symbol using integrator 207, to provide an energy value 209 or energy of the transmitted symbol according to the following equation:

Please replace the paragraph beginning on line 155 on page 5 with the following amended paragraph.

The duration when the compensator provides the compensated data signals is known as the compensation period. The compensator 251 may operate in a sampling period acquisition mode where no changes are made to data symbols provided to the compensator, and such symbols are placed onto the IFFT-bus 261 unchanged by the compensator. The compensator may operate in a feedback mode during a compensator period where the compensator 251 provides the compensated in-phase baseband, i.e., first

in-phase compensated data symbol (FICDS) 263, and a second in-phase compensated data symbol (SICDS) 265, and compensated quadrature baseband, i.e., a first quadrature compensated data symbol (FQCDS) 262, second quadrature compensated data symbol (SQCDS) 264, signals to the IFFT 271. Modulator 281 may operate as an OFDM and may be followed by amplifier 291.